ABSTRACT OF THE DISCLOSURE

~~This electric motor vehicle is unique because it has just two wheels parallel to one another. Steering is achieved by the differential rotation of the two wheels with respect to one another -- reducing the turning radius of this vehicle to the mere distance between the centres of the ground contact areas of the two tyres. Traction is by two permanent-magnet AC motors -- the stators on the axle circumference and the rotors on the inside of the wheel hubs. The outer-circumference of the hollow axle which doubles up as the vehicle shell is more than half of the maximum outer-circumference of the tyre on the wheel. The heavy-weight electrical energy storage devices, mostly electrical-accumulators, are positioned at the bottom of the hollow axle-shell. This brings down the centre of gravity well below the common geometrical centre of the two parallel wheels; providing inertial stability to the vehicle shell, when torque is applied by the wheel motor. This location of the accumulators also results in ease while changing them. Large diameter of the hollow axle seats either one or two passengers, and allows entry or access through the side faces of the axle-shell around the whole perimeter of which the wheel rotates. Braking is fully-electromagnetically regenerative, with an electromechanical parking brake for each wheel. Due to the huge diameter of the wheel motors, regenerative braking is very effective. Rolling on the road surface is more efficient due to the large diameter of the wheels, which results in the increase of the effective travelling range of the vehicle and obviates the use of shock absorber. As there are no mechanical linkages for steering and braking, both being fully-electrical, it is possible to link two or more similar vehicles to mimic virtual dynamic towing, either one behind the other or sideways, or both -- bringing about flexibility and economy of use. The absence of conventional mechanical gears, steering, suspension and brakes, makes this two-wheel electric motor vehicle a new integrated truly electric-motor vehicle.~~

A vehicle with zero turning radius employing a minimum of two generally parallel matching annular wheels mounted with independent pneumatic toroidal suspensions fixed coaxially on a chassis. The wheels have mounted on their inner hub sides frictional linings along which run a respectively equal number of circumferentially distributed truncated-bicone-shaped rotors of brush-less dc motors with stator shafts fixed on to the axles of the wheels. Addition of a number of large holonomic wheels in tandem on either side of the two generally parallel wheels makes the vehicle longer and more stable. The large holonomic wheels have tires formed by a toroidal unanimity of disc-like rollers with magnetic or electromagnetic elements radially distributed evenly to make each disc-like roller rotate or resist rotation perpendicular to the holonomic wheel axis by acting as a rotor to motor stator windings attached to the chassis in proximity with the ground-engaging portion of the tire.